

Short Communication

TRACHEAL RECONSTRUCTION FOLLOWING TRACHEAL LACERATION IN A BUFFALO BULL

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ABSTRACT: Tracheal laceration are surgical affection in buffaloes and occur following trauma due to barbed wire, penetrating foreign objects or accidents. A five-year-old buffalo bull was brought to Veterinary Clinical Complex with the complaint of a deep lacerated wound at the ventral neck region. Physical, clinical and radiographic examination revealed full thickness tracheal laceration from ventral aspect without the involvement of esophagus. Under sedation, tracheal reconstruction was performed and animal recovered uneventfully.

Key words: Trachea, Reconstruction, Anastomosis, Laceration.

Tracheal laceration is a rare surgical affection in buffaloes owing to their thick skin covering. Most of the tracheal affections occur following lacerations with barbed wire, foreign body penetration or after severe traumatic event like accidents. Severe rupture involving the cervical portion of the trachea will often lead to rapid respiratory obstruction either because of the gross distraction of the tracheal components or through intraluminal accumulation of blood and tissue debris (Kellagher and White 1987). Compounded cervical wounds may in some cases be life-saving where the extent of the laceration is such that the animal may continue to breathe by virtue of a traumatic tracheotomy (Hill 1974). The present article describes the surgical management of traumatic tracheal laceration in a buffalo bull.

Case history and observation

A five-year-old buffalo bull was brought to Veterinary Clinical Complex after a traumatic injury with barbed wire or fencing wire five days ago. The animal was active and alert and reported to have normal appetite, water intake, defecation and respiratory activity. On clinical examination,

the animal had a deep wound at the ventral cervical region (Fig. 1). Further examination revealed a rent in the cervical trachea of 3-5cm length at the ventral aspect communicating to the exterior through the lacerated skin wound (Fig. 2). There was severe purulent discharge and mal odor from the affected site. The dorsal aspect of the trachea was found intact. Latex coated rubber stomach tube was passed through the oral cavity after sedation to detect any involvement of esophagus however the tube passed smoothly without any obstruction. Confirmatory diagnosis was made by radiographic examination that revealed full thickness laceration of trachea from ventral to dorsal aspect without involvement of esophagus (Fig.3). In view of the immediate need for surgical intervention, it was decided to perform tracheal reconstruction.

Treatment and discussion

The animal was sedated with Inj. Xylazine hydrochloride @ 0.03 mg per kg b.wt intravenous, restrained in right lateral recumbency and prepared for aseptic surgery. On exploration, there was severe adhesions of the surrounding muscles with the trachea

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Fig. 1. Buffalo bull presented with deep lacerated wound at the ventral cervical region.

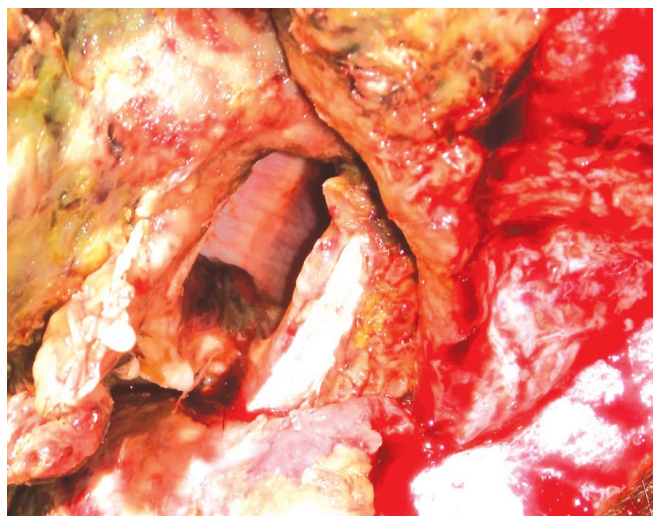


Fig. 2. The rent in the trachea communicating to the exterior through the compound wound.

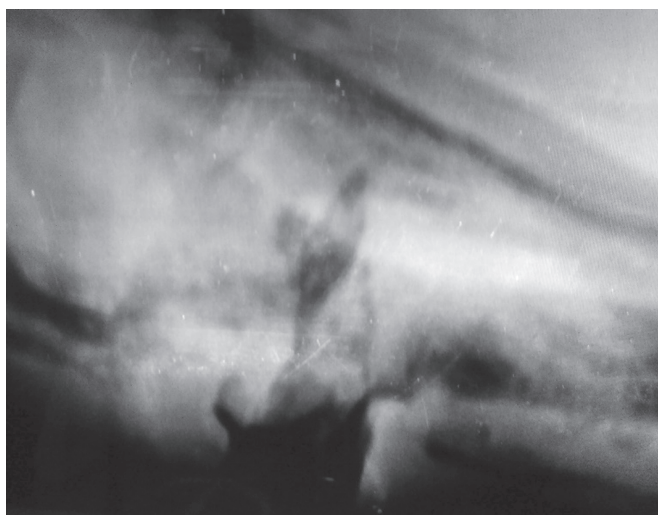


Fig. 3. Radiographic image showing rupture of muscles and rent in the trachea.

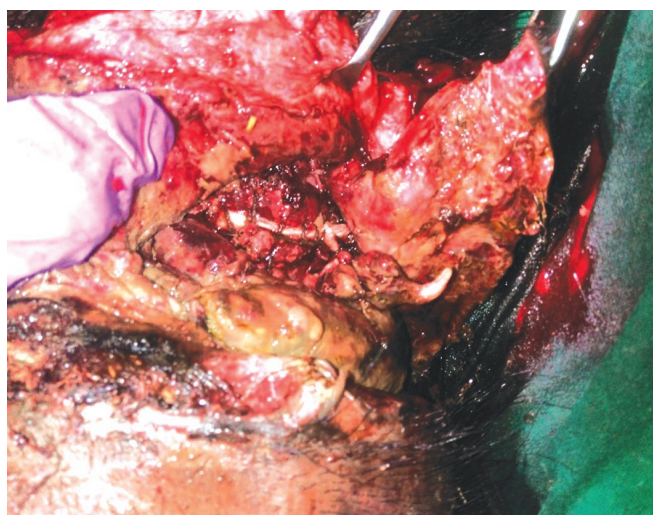


Fig. 4. After surgical reconstruction of trachea.

which was carefully separated to free the trachea. The trachea was reconstructed using catgut no: 3 in a continuous lock stitch pattern to close the rent (Fig. 4). The surrounding muscles were surgically debrided and closed as per standard procedure. Skin was closed with silk no: 3 in horizontal mattress suture pattern.

Postoperatively antibiotics Inj. Ceftriaxone @ 10mg per kg b.wt and analgesic Inj. Meloxicam @ 0.5mg per kg b.wt were administered parenterally for five days. Daily wound dressing two-three times with povidone iodine and application of fly repellent spray was also advised to the owner.

Tracheal laceration and rupture is an emergency situation and the aim is to reconstruct an unobstructed airway. The anastomotic technique used should provide an airtight, tension free, seal with minimal tissue reaction (Nelson 1985). In the present case also, immediate surgical intervention was undertaken as an emergency and anastomotic technique was found to be airtight and tension free. Major lacerations of the trachea are normally visible on plain radiographs alone although resort to contrast studies or other diagnostic techniques may be indicated for small tears (Suter 1984). In the present case also, plain radiography was used for confirmatory diagnosis. Follow up to one-month post-operative did not

reveal any complications other than slight suture line infection observed after 2 weeks of surgery associated with owner carelessness which subsided with antibiotic treatment.

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